

- 1 We claim:
- 2 1. A method for producing a pigment, comprising:
- 3 a) adding a phosphorus compound to an aqueous suspension of titanium dioxide base  
4 material, then
- 5 b) adding a titanium compound; and
- 6 c) adding an aluminum compound.
- 1 2. The method of claim 1, further comprising:
- 2 d) adjusting the pH value of the suspension to a value of from 8 to 10.
- 1 3. The method of claim 1, wherein the added phosphorus compound is an inorganic  
2 phosphorus compound.
- 1 4. The method of claim 3, wherein the inorganic phosphorus compound is selected from  
2 the group consisting of alkali phosphates, ammonium phosphates, polyphosphates,  
3 and phosphoric acid.
- 1 5. The method of claim 1, wherein the added phosphorus compound is 0.4 to 6.0% by  
2 weight calculated as  $P_2O_5$ , referred to  $TiO_2$  base material in the suspension .
- 1 6. The method of claim 5, wherein the added phosphorus compound is 1.0 to 4.0% by  
2 weight, calculated as  $P_2O_5$ , referred to  $TiO_2$  base material in the suspension .
- 1 7. The method of claim 6, wherein the added phosphorus compound is 1.6 to 2.8% by  
2 weight, calculated as  $P_2O_5$ , referred to  $TiO_2$  base material in the suspension .

- 1 8. The method of claim 1, wherein the titanium compound added is a hydrolyzable  
2 titanium compound.
- 1 9. The method of claim 8, wherein the titanium compound added is selected from the  
2 group consisting of titanyl sulphate and titanyl chloride.
- 1 10. The method of claim 8, wherein the quantity of titanium compound added is 0.1 to  
2 3.0% by weight, calculated as  $\text{TiO}_2$ , referred to  $\text{TiO}_2$  base material in the  
3 suspension.
- 1 11. The method of claim 10, wherein the quantity of titanium compound added is 0.1 to  
2 1.5% by weight, referred to  $\text{TiO}_2$  base material in the suspension.
- 1 12. The method of claim 11, wherein the quantity of titanium compound added is 0.1 to  
2 1.0% by weight, calculated as  $\text{TiO}_2$ , referred to  $\text{TiO}_2$  base material in the  
3 suspension.
- 1 13. The method of claim 1, wherein the quantity of titanium compound added is 0.1 to  
2 1.0% by weight, calculated as  $\text{TiO}_2$ , referred to  $\text{TiO}_2$  base material in the  
3 suspension.
- 1 14. The method of claim 1, wherein the aluminum compound added is alkaline.
- 1 15. The method of claim 14, wherein the alkaline aluminum compound is selected from  
2 the group consisting of sodium aluminate, alkaline aluminum chloride, and alkaline  
3 aluminum nitrate.

- 1 16. The method of claim 14, further comprising
- 2 d) adjusting the pH value of the suspension to a value of from 8 to 10 after step c).
- 1 17. The method of claim 1, wherein the aluminum compound added is acidic.
- 1 18. The method of claim 17, further comprising:
- 2 d) adjusting the pH value to a value between 8 and 10 by adding an alkaline aluminum
- 3 compound.
- 1 19. The method of claim 17, further comprising:
- 2 d) adjusting the pH value to a value between 8 and 10 by adding an alkaline aluminum
- 3 compound in combination with a base.
- 4 20. The method of claim 1, wherein during the addition of the aluminum compound, the
- 5 pH value of the suspension is maintained constant in the range from 2 to 10 by the
- 6 simultaneous addition of a pH modifying compound.
- 1 21. The method of claim 20, wherein during the addition of the aluminum compound, the
- 2 pH value of the suspension is maintained constant in the range from 4 to 9 by the
- 3 simultaneous addition of a pH modifying compound.
- 4 22. The method of claim 21, wherein during the addition of the aluminum compound, the
- 5 pH value of the suspension is maintained constant in the range from 6 to 8 by the
- 6 simultaneous addition of a pH modifying compound.
- 1 23. The method of claim 1, wherein the total quantity of the aluminum compounds added
- 2 is 2.0 to 7.5% by weight, calculated as  $\text{Al}_2\text{O}_3$ , referred to  $\text{TiO}_2$  base material.

1 24. The method of claim 23, wherein the total quantity of the aluminum compounds  
2 added is 3.5 to 7.5% by weight, calculated as  $\text{Al}_2\text{O}_3$ , referred to  $\text{TiO}_2$  base material.

1 25. The method of claim 1, further comprising

d) adding a magnesium compound.

1 26. The method of claim 25, wherein the magnesium compound added is selected from  
2 the group consisting of magnesium sulphate and magnesium chloride.

1 27. The method of claim 25, wherein the quantity of magnesium compound added is 0.1  
2 to 1.0% by weight, calculated as  $\text{MgO}$ , referred to  $\text{TiO}_2$  base material in the  
3 suspension.

1 28. The method of claim 27, wherein the quantity of magnesium compound added is 0.2  
2 to 0.5% by weight, calculated as  $\text{MgO}$ , referred to  $\text{TiO}_2$  base material in the  
3 suspension.

1 29. The method of claim 25, further comprising

2 e) treating the pigment with an added material in order to influence the final pH value of  
3 the suspension wherein the final pH value of the pigment is controlled by the pH  
4 and the quantity of the added material.

1 30. The method of claim 29, where the added material is a nitrate compound.

1 31. The method of claim 30, where the finished pigment contains up to 1.0% by weight  
2  $\text{NO}_3$

1 32. The method of claim 29, further comprising;

2 incorporating the pigment produced into a decorative laminating paper.

1 33. The method of claim 29, further comprising;

2 incorporating the pigment produced into a resin.

1 34. The method of claim 1, where the titanium dioxide base material is milled before step  
2 a).

1 35. The method of claim 34, where the titanium dioxide base material is wet-milled and  
2 where a dispersant is added during milling.

1 36. The method of claim 1, further comprising;

2 incorporating the pigment produced into a decorative laminating paper.

1 37. The method of claim 1, further comprising;

2 incorporating the pigment produced into a resin.

1 38. The method of claim 25, further comprising;

2 incorporating the pigment produced into a decorative laminating paper.

1 39. The method of claim 25, further comprising;

2 incorporating the pigment produced into a resin.

1     42. A material, comprising;  
  
2     a titanium dioxide pigment material; the titanium dioxide comprising a very large plurality  
3         of TiO<sub>2</sub> particles, each particle having a surface;  
  
4     phosphorus containing material attached to the surface of each particle;  
  
5     titanium containing material additional to the titanium dioxide material of the surface  
6         attached to the phosphorus containing material; and  
  
7     aluminum containing material attached to the titanium containing material additional to  
8         the titanium dioxide material of the surface.

1     43. The material of claim 42, further comprising;  
  
2     magnesium containing material attached to the aluminum containing material.

1     44. The material of claim 42, further comprising;  
  
2     nitrate containing material attached to the aluminum containing material.

1     45. The material of claim 42, further comprising;  
  
2     nitrate and magnesium containing material attached to the aluminum containing material.

1     46. The material of claim 42, wherein the resultant particles contain an insignificant  
2         amount of zirconium.

1     47. The material of claim 42 further comprising a decorative laminated paper.

1      48. The material of claim 42 further comprising a resin.